

Approved by:

_____/_____/_____
Process Engineer_____/_____/_____
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1 SCOPE

The purpose of this document is to detail the use of the Heraeus Vacuum Oven. All users are expected to have read and understood this document. It is not a substitute for in-person training on the system and is not sufficient to qualify a user on the system. Failure to follow guidelines in this document may result in loss of privileges.

2 REFERENCE DOCUMENTS

- Material Safety Data Sheet for the materials that you are processing
- Appropriate Tool Manuals

3 DEFINITIONS

n/a

4 TOOLS AND MATERIALS

4.1 General Description

- 4.1.1 The Heraeus Oven has a temperature controller and may be used to bake or cure films at atmospheric pressure or under vacuum. The Omega Temperature Controller will allow you to write a recipe with various steps and ramps.

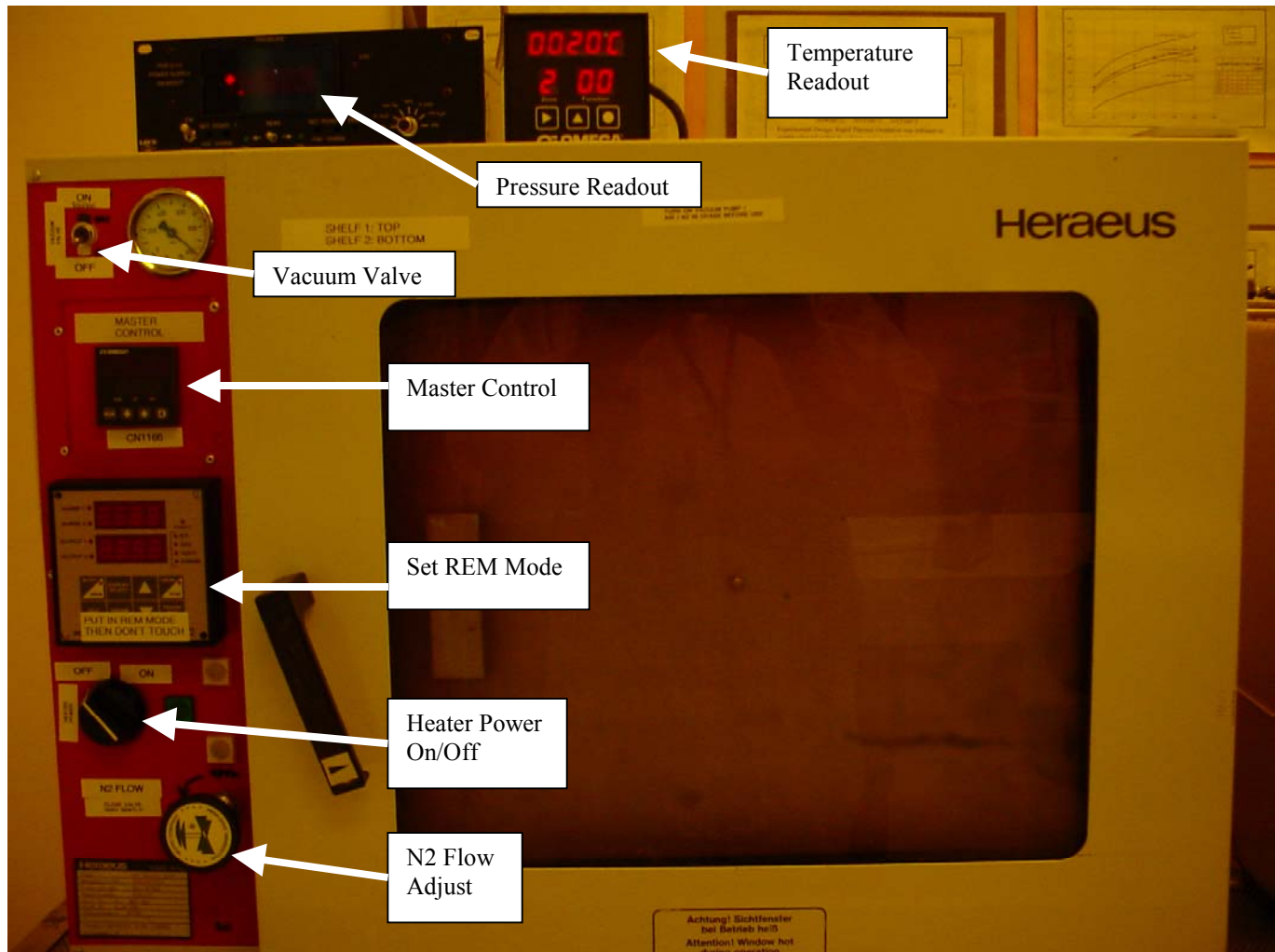
5 SAFETY PRECAUTIONS

5.1 Hazards to the Tool

- 5.1.1 Be careful not to contaminate the shelves with your photoresist or polymer. Wafers should have clean backs.
- 5.1.2 Do not over tighten the N2 Flow Valve.

5.2 Hazards to the Operator

- 5.2.1 The interior of the oven as well as the window will become hot during operation.



6 INSTRUCTIONS

6.1 Initial State Check

- 6.1.1 In the service chase turn on the **15 psi nitrogen**, the white **Heraeus Vacuum Pump** and make sure that the **air pressure is 55 psi**.
- 6.1.2 If you do not want to do a vacuum process leave the pump off.
- 6.1.3 Verify that the system is in the REM mode on the **Set REM Mode** panel.

6.2 Reseting the System

- 6.2.1 If the system needs to be reset, cycle the power off and on.

6.3 Operating the system

6.3.1 Load the wafers on the shelf, close the door and turn the handle to seal it.

6.3.2 Gently close the **N2 Flow Valve**.

6.3.3 Turn on the **Heater Power**.

6.3.4 Running the Controller in Manual Mode

6.3.4.1 Before using the manual control make sure that no programs are running.

6.3.4.2 After turning on the **Heater Power**, press the **scroll** key until you see **SP** displayed. Use the arrows to adjust the set point and then hit the scroll key twice. The set point will be displayed on the bottom and the actual temperature will be on the top display.

6.3.5 Programming a sequence on the Master Control

6.3.5.1 The controller is capable of storing 4 recipes with 16 steps each.

6.3.5.2 To enter the program mode press the **up arrow** and the **scroll key** simultaneously. Press the **scroll key** to select the **program set** mode.

6.3.5.3 **ULoc** will be displayed. Use the arrows to enter the code **20** and press the **scroll key**.

6.3.5.4 Step 1 of Program 1 may now be edited. Each step may be a ramp, soak or end.

6.3.5.5 To make a **ramp** step with **01_r** displayed set the desired ramp rate, press the **scroll key**, enter the final setpoint and press the **scroll key**.

6.3.5.6 To make a **soak** step press the **arrows** simultaneously to display **01_d**, then press the **scroll key**, set the desired time and then press the **scroll key**.

6.3.5.7 To make an **end** step press the **arrows** simultaneously to display **End**, then press the **down arrow** and finally press the **scroll key**.

6.3.5.8 To **exit** from the program set mode press the **up arrow** and the **scroll key** and then the **scroll key** when **End Set** is shown.

6.3.6 If you are doing a vacuum process turn on the **Vacuum Valve** and adjust the **N2 Flow** until the pressure on the **Pressure Readout** is 300mT. (On top of the oven)

6.3.7 Press **Run** on the **Master Control** to start the program. Select the program number and then press **run** again. The **temperature readout** is on the top of the oven.

6.3.8 To put a program in hold press **Run**. Press **Run** again to take it out of hold.

6.3.8 To abort a program hold the **Run** button for 5 seconds.

6.3.9 When the run is finished turn off the Heater Power and the Vacuum Valve and gently close the N2 Flow Valve. When the oven has vented open the door and remove the wafers.

6.3.10 In the service chase turn off the vacuum pump and the nitrogen.

6.4 Errors during Run

N/a

7 APPROPRIATE USES OF THE TOOL

7.1 Use only wafers that have clean backs to avoid contaminating the system.

REVISION RECORD

Summary of Changes	Originator	Rev/Date
Original Issue	Sean O'Brien	A-08/21/03